REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. Claims 32 and 44 have been cancelled. Claims 1, 13, 16, 21, 27-29, 35 and 39-43 have been amended. Support for the amendments to claims 1, 13, and 40 can be found at page 7, lines 11-23 and in Figures 3 and 4 of the present application. Amendments to the remaining claims are supported by the originally filed claims of the current application. Changes made to the claims by the current amendment are shown in the attached Version With Markings To Show Changes Made.

Objections and Section 112 Rejections

The drawings were objected to for not showing the "cover" recited in claims 41 and 42. Claims 41 and 42 have been amended to replace the term "cover" with a term that is more clearly shown in the drawings. Withdrawal of the objection is respectfully requested.

The specification was objected to for failing to provide proper antecedent basis for the term "cover" recited in claims 41 and 42. Claims 41 and 42 have been amended to replace the term "cover" with an alternative term that is more clearly defined in the specification. Withdrawal of the objection is respectfully requested.

Claims 41 and 42 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter not described in the specification. As discussed above, claims 41 and 42 have been amended to replace the term "cover" with an alternative term that is more clearly defined in the specification. Withdrawal of the rejection is respectfully requested.

The amendments to claims 41 and 42 have been made to address formality issues only, and therefore should not be construed as limiting.

Section 102 Rejections

Claims 1-3, 10-13, 15, 16, 20-22, 26-28, 36, 37 and 45 were rejected under 35 U.S.C. § 102(b) as being anticipated by Dew, U.S. 3,436,827. Applicant respectfully traverses this rejection.

Dew fails to disclose or suggest a structure within the cavity of an encasement member that fixedly retains the stone member within the cavity such that the stone member and encasement member are inseparable, as required by claim 1. Dew discloses a structures 56 that "project laterally into the receptable thereby providing a platform 58 at the top of each sidewall element" in order to support a dental impression (column 3, lines 55-67). However, the ledges 56 are configured so as to allow the "U-shaped member 30 to be removed from the base 12 by releasing the detent means 50 adjacent the ends 51 of the side wall elements 34, as shown in phantom in Figure 3, and then slipping the apertured end wall element 32 of the U-shaped member 30 from the protuberance 44, as seen in Figure 1, to expose the sides of the reproduction 40 and the base member 42" (column 3, line 73-column 4, line 5). Thus, the encasement member and stone member disclosed by Dew are intended to be separable.

As to claim 13, Dew fails to disclose or suggest a cavity comprising a structure extending along a length of the cavity and adapted to fixedly engage a cast dental model base formed in the cavity, as required by claim 13. The ledges 56 disclosed by Dew may engage an upper edge of reproduction 40, but clearly fails to fixedly engage the reproduction 40 to the U-shaped member 30. Therefore, Dew fails to disclose every limitation of claim 13.

Dew fails to disclose or suggest the limitations of claim 21 for the reasons stated above relating to claim 13. The ledges 56 and ridges 70, and even the guide rail 36 (if guide rail 36 were interpreted to be such a structure), all fail to fixedly engage the stone base so as to secure the stone base to the encasement member as required by claim 21. As discussed above, the dental matrix 10 disclosed by Dew is separable into multiple pieces even after it has been filled with a dental stone that has cured. Thus, the structures disclosed by Dew fail to meet the limitations of claim 21.

As to claim 27, Dew fails to disclose or suggest a hemispheric cavity formed in an exterior wall of the encasement member that is adapted to receive a spherical connector, as required by claim 27. The Examiner contends that Dew discloses a concave socket 45. Applicant was unable to find a feature 45 disclosed by Dew. However, if the Examiner intended to refer to feature 46, this feature is merely a cylindrical aperture sized to

receive the protuberance 44 (column 3, lines 30-39), and is clearly not a hemispheric concavity adapted to receive a spherical connector, as required by claim 27.

As to claim 45, Dew fails to disclose or suggest a method that includes filling a cavity formed by an encasement member with uncured casting material that is rigidly connected to the encasement member when cured so as to form a dental model base, and a further step of placing a case dental model adjacent the uncured casting material in the cavity so that the dental model is engaged with the dental model base when the casting material is cured, as required by claim 45. Dew discloses a dental matrix 10 that is filled with uncured dental stone to the level of ledges 56, filling a dental impression with uncured dental stone, inverting the dental impression and placing the impression, filled with uncured stone, over the mass of uncured dental stone in the receptacle (column 3, lines 53-66). Thus, Dew fails to disclose placing a cast (i.e., cured) dental model adjacent uncured casting material in an encasement member, as required by claim 45.

In view of the above, Applicant submits that Dew fails to disclose every limitation of claims 1, 13, 21, 27 and 45 and the claims that depend from them.

Claims 1, 2, 4, 13-15, 20, 21, 23-29, 39, 43 and 44 were rejected under 35 U.S.C. § 102(b) as being anticipated by Darnand, U.S. 5,100,317. Applicant respectfully traverses this rejection. Claim 44 has been canceled rendering this rejection moot as to that claim.

Darnand fails to disclose or suggest every limitation of claims 1, 13, 21, 27, 39 and 43. Darnand discloses a cupel 6 that is filled with liquid plaster 13, in which a denture 14 of a dental model is to be produced (column 4, lines 58-61 and shown in Figure 6). Applicant submits that is the cupel 6 rather than the cup 3, into which the couple 6 is mounted, that defines the cavity in which a stone member is cast from the liquid plaster 13. Cupel 6 fails to provide structure within the cavity in which the liquid plaster is held that fixedly retains the stone member within the cavity such that the stone member and encasement member are inseparable, as required by claim 1. Even if the cup 3 were interpreted as having a cavity in which a stone member is cast, the structures 4, 12 disclosed by Darnand make it possible to remove the stone member from cup 3 such that those features are separable, contrary to the requirements of claim 1.

As to claim 13, Darnand fails to disclose or suggest a cavity comprising a structure extending along the length of the cavity and adapted to fixedly engage a cast dental model base formed in the cavity, as required by claim 13. Not only do the cupel 6 and cup 3 disclose by Darnand fail to include a structure that extends along the length of the cavity, but these features also fail to fixedly engage a cast dental model base formed in the cavity. Features 4, 12 and 9, 10 are configured so as to engage the cupel 6 to the cup 3, but fail to engage the liquid plaster 13 or the denture 14.

As to claim 21, Darnand fails to disclose or suggest an encasement member that comprises a structure that fixedly engages a stone base to secure the stone base to the encasement member, as required by claim 21. As discussed above, the features 9, 10 and 4, 12 disclosed by Darnand fail to engage the liquid plaster 13 and denture 14.

As to claim 27, Darnand fails to disclose or suggest a hemispherical concavity formed in an exterior wall that is adapted to receive a spherical connector, as required by claim 27. The recess 10 disclosed by Darnand is merely a cylindrically shaped aperture sized to receive a cylindrically shaped screw 12, and has no hemispherical concavity shape, as required by claim 27.

As to claim 39, Darnand fails to disclose or suggest an articulator attachment plate. Darnand fails to disclose any feature that is configured so as to be connected to an encasement member and to an articulator member, as is the articulator plate required by claim 39. Therefore, Darnand fails to disclose every limitation of claim 39.

As to claim 43, Darnand fails to disclose a stone member defining at least one pin opening or a dental model including at least one pin that fits within the at least one pin opening of the stone member, as required by claim 43.

In view of the above, Applicant submits that Darnand fails to disclose every limitation of claims 1, 13, 21, 27, 39 and 43, and the claims that depend from them. Withdrawal of the rejection is respectfully requested.

Claims 45 and 46 were rejected under 35 U.S.C. § 102(b) as being anticipated by Huffman, U.S. 4,378,929 ("Huffman '929"). Applicant respectfully traverses this rejection.

Huffman '929 fails to disclose or suggest an encasement member engaging the casting material in a cavity of the encasement member such that the cured casting

material is rigidly connected to the encasement member, as required by claim 45. Huffman discloses forming a base 12 by filling a mold 10 with uncured stone. Before the uncured stone sets, a tooth dye 16 is placed upon the uncured exposed surface of the base. After curing, a wall 26 and insert 24 of mold 10 are disassembled such that the base 12 may be lifted off substructure 18 of mold 10. Thus, base 12 is separable from and not rigidly connected to the mold 10. Thus, Huffman '929 fails to disclose every limitation of claim 45 and 46. Withdrawal of the rejection is respectfully requested.

Section 103 Rejections

Claims 38, 41 and 42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dew. Applicant respectfully traverses this rejection.

As discussed above, Dew fails to disclose or suggest every limitation of claim 27. Therefore, claim 38 is allowable for at least the reason it is dependent upon an allowable base claim. Applicant does not concede the correctness of the rejection of claim 38.

Claims 41 and 42 have been amended to clarify that the "cover" is an attachment plate that acts as a cover for enclosing the cavity adjacent to one side of the encasement member. Dew fails to disclose or suggest an attachment plate, a dental model assembly comprising an encasement member and an attachment plate removable connectable to the encasement member that acts as a cover for enclosing a cavity of the encasement member. Therefore, it would not have been obvious to one of ordinary skill in the art when referencing Dew to obtain the limitations of claims 41 and 42. Withdrawal of the objection is respectfully requested.

Claims 4-9, 13-20, 24, 25, 27-34, 36, 37, 39, 40, 43 and 51-55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dew in view of Huffman, U.S. 4,842,242 ("Huffman '242"). Applicant respectfully traverses this rejection.

As discussed above, Dew fails to disclose or suggest every limitation of claims 1 and 21. Huffman '242 fails to remedy the deficiencies of Dew as it relates to claims 1 and 21. Therefore, claims 4-9, 24 and 25 are allowable for at least the reason they are dependent upon an allowable base claim. Applicant does not concede the correctness of this rejection. Withdrawal of the rejection of claims 4-9, 24 and 25 is respectfully requested.

Neither Dew, Huffman '242, nor a combination of these references disclose or suggest an encasement member having a cavity comprising a structure extending along a length of the cavity and adapted to fixedly engage a cast dental model base formed in the cavity, as required by claim 13. Further, these references fail to disclose or suggest a cavity of an encasement member comprising a structure adapted to grip the casting material when it cures into a stone member so as to form a unitary member, as required by claim 40. Dew discloses a dental matrix 10 that is intended to be disassembled after dental stone being held by the matrix is cured such that the model or reproduction 40 is separable from features of the dental matrix. Huffman '242 discloses a mold 70 for developing a base 60 that is made of a rubber or rubber-like compound to permit outward bending and stretching of the mold sidewalls to effect release and removal of the formed base (column 6, lines 39-45). Thus, neither Dew, Huffman '242, nor a combination of these references disclose an encasement member comprising a structure that fixedly engages a cast dental model base formed in the cavity or grips the casting material so as to form a unitary member, as required by claims 13 and 40, respectively. Withdrawal of the rejection is respectfully requested.

As to claim 27, neither Dew, Huffman '242, nor a combination of these references disclose or suggest a wall of an encasement member having a hemispheric concavity formed therein that is adapted to receive a spherical connector, as required by claim 27. As to claim 39, neither Dew, Huffman '242, nor a combination of these references disclose or suggest a system for connecting a dental model to an articulator that includes an articulator attachment plate extending along an attachment plate support surface of an encasement member, the articulator attachment plate being connectable to the encasement member and an articulator, as required by claim 39. Huffman '242 discloses a base 60 that is configured to be attachable directly to an articulator via a slot 50 formed in the base. Dew fails to disclose any structure relating to an articulator, much less an attachment plate, as required by claim 39.

As to claim 43, neither Dew, Huffman '242, nor a combination of these references disclose or suggest a dental model assembly that includes a dental model base having an encasement member, a dental model supported by the dental model base, and an articulator connected to the encasement member, as required by claim 43. Dew fails to

disclose an encasement member that is capable of being connected to an articulator. The mold 70 disclosed by Huffman '242 is not configured so as to be connected to an articulator because the base 60 is formed so as to be directly connected to an articulator.

Claim 51 is allowable over Dew, Huffman '242, or a combination of these references for at least the same reasons as discussed above relating to claim 43. The dental matrix 10 disclosed by Dew is not configured so as to be connected to an articulator. Furthermore, the base 60, rather than the mold 70 disclosed by Huffman '242 is configured to be connected to an articulator.

In view of the above, Applicant submits that neither Dew, Huffman '242, nor a combination of these references disclose or suggest every limitation of claims 13, 27, 39, 40, 43 and 51, and the claims that depend from them. Withdrawal of the rejection is respectfully requested.

Applicant thanks the Examiner for the indication of allowable subject matter in claim 35, and the allowance of claims 47-50.

In view of the above, Applicant requests reconsideration of the application in the form of a Notice of Allowance. If a telephone conference would be helpful in resolving any issues related to this matter, please contact Applicant's attorney below at 612-371-5387.

Respectfully submitted,

Date 1/24/03

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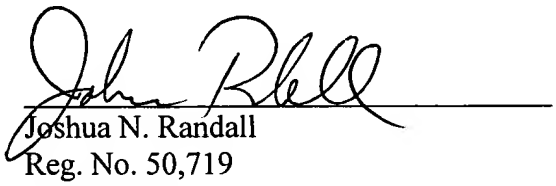

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Claims 32 and 44 have been canceled.

Claims 1, 13, 16, 21, 27-29, 35 and 39-43 have been amended as follows:

1. (Amended) A dental model base comprising:

a stone member having a shape that corresponds generally to at least a portion of a patient's gum line;

an encasement member defining a cavity in which the stone member is cast; and

structure within the cavity that fixedly retains the stone member within the cavity of the encasement member such that the stone member and encasement member are inseparable.

13. (Amended) A dental model base encasement member comprising:

a dental model support surface;

a wall extending from said dental model support surface; said wall being generally perpendicular to said dental model support surface; said wall having an exterior and an interior surface; said wall interior surface defining a cavity; said cavity generally corresponding to the curvature of a gum; said cavity comprising a structure extending along a length of the cavity and adapted to fixedly engage a cast dental model base formed [therein] in the cavity.

16. The dental model base encasement member of claim 13 having a first end and a second end; a hemispherical socket formed in said wall exterior surface at said first end; a latch receiver on said wall exterior surface at said second end.

21. (Amended) A dental model and base comprising:

a casting of a patient's teeth and gum;

a stone base supporting said casting; and

an encasement member defining a cavity for containing said stone base, the cavity comprising a structure that fixedly [engaging] engages said stone base to secure the stone base to the encasement member.

27. (Amended) A dental model base encasement member comprising:

a dental model support surface;

an opposing surface remote from said dental model support surface;

a wall extending from said dental model support surface to said opposing surface; said wall having an interior surface and an exterior surface; said exterior wall having a hemispheric concavity formed therein at a first end, said concavity adapted to receive a spherical connector;

said wall interior surface forming a cavity adapted to receive uncured casting material, said cavity shaped to correspond generally to the curvature of a patient's gum, and

said wall being rigid.

28. The encasement member of claim 27 wherein [said exterior wall is adapted to connect said encasement member to an articulator] said encasement member further comprises a latch receiver at a second end, said latch receiver being adapted to receive a latch connector.

29. The encasement member of claim [27] 28 wherein said encasement member is detachably connectable to an articulator attachment plate having a spherical connector and a latch connector.

35. (Amended) The encasement member of claim 29 wherein [said encasement member has a hemispheric concavity formed in said exterior wall surface at a first end; a latch receiver formed in said exterior wall surface at a second end;] said concavity is adapted to receive a spherical member connected to an articulator attachment plate and said latch receiver is adapted to engage a latch connected to said articulator attachment plate.

39. (Amended) A system for connecting a dental model to an articulator comprising:

an encasement member having a dental model support surface and an opposing attachment plate support surface, and a wall extending therebetween; said encasement member forming a cavity adapted to receive uncured casting material; said cavity adapted to grip said casting material when it cures; and

an articulator attachment plate; said articulator attachment plate extending along the attachment plate support surface and being connectable to said encasement member and to an articulator.

40. (Amended) A system for connecting a dental model to an articulator comprising:

an encasement member; said encasement member forming a cavity adapted to receive uncured casting material; said cavity comprising a structure adapted to grip said casting material when it cures into a stone member so as to form an inseparable member comprising the encasement member and the stone member; and

a ball and socket connector adapted to connect said encasement member to an articulator.

41. (Amended) A dental model assembly comprising:

an encasement member defining a cavity adapted to receive uncured casting material, the cavity shaped to generally correspond to at least a portion of a patient's gum line, the cavity being open adjacent opposite first and second sides of the encasement member; and

[a cover] an attachment plate removably connectable to the encasement member, the attachment plate acting as a cover for enclosing the cavity adjacent the first side of the encasement member.

42. (Amended) The dental model assembly of claim 41, wherein the [cover] attachment plate connects to the encasement member by a snap-fit connection.

43. (Amended) A dental model assembly comprising:

a) a dental model base including:

i) an encasement member defining a cavity shaped to generally correspond to at least a portion of a patient's gum line;

ii) a stone member cast within the cavity, the stone member being shaped to generally correspond to the portion of the patient's gum line, the stone member defining at least one pin opening;

b) a dental model adapted to be supported on the dental model base, the dental model including at least one pin that fits within the at least one pin opening of the stone member; and

c) an articulator connected to the encasement member of the dental model base.